

REMARKS

The office action of December 22, 2010, has been carefully considered.

It is noted that claims 1, 4-15, 17 and 40-42 are rejected under 35 USC 103 (a) over Lin, et al. 2001 in view of Hansen, Martin, and Glass.

Claims 16, 20 and 21 are rejected under 35 USC 103 (a) over Lin, et al. 2001 in view of Hansen, Martin and Glass and further in view of Tyszblat.

Claims 18 and 19 are rejected under 35 USC 103 (a) over Lin, et al. 2001 in view of Hansen, Martin and Glass and further in view of Kondo.

Claim 43 is rejected under 35 USC 103 (a) over Lin, et al. 2001 in view of Hansen, Martin and Glass, and further in view of Beesabathina.

In view of the Examiner's objection to and rejections of the claims, Applicant has amended claim 1. Support for the changes to

claim 1 can be found in paragraphs [0053-0054] of the published version of the present application.

It is respectfully submitted that the claims now on file differ essentially and in an unobvious, highly advantageous manner from the methods disclosed in the references.

Turning now to the references, applicant has addressed the references at length in previous amendments and incorporates those comments herein by reference. The following additional comments are provided.

The present invention provides, compared to the prior art, a simplified process for a dense sintering of oxide ceramics as an alternative to hot-isostatic pressing (HIP-technology). By this process, a translucent ceramic is provided from which a highly aesthetic dental restoration is produced by machining it. The final machining step is the essential difference between the presently claimed invention and the cited prior art.

After infiltrating and dense sintering, a blank results that consists of a translucent core and a non-translucent outer layer. The non-translucent outer layer is to be understood as a

multicomponent system. Due to different refractive indexes, translucencies in multicomponent materials are not possible. In the presently claimed invention the non-translucent layer is removed by a machining operation and/or etching, thus making the translucent inner core of the blank optically accessible.

The prior art references always produce a multicomponent system that has the desired properties and is retained unchanged. There is no teaching or suggestion in the references of removing a covering layer by a machining operation and/or etching to make the translucent core optically accessible, as in the present invention. In all of the cited references the additional layer of infiltration material is not removed but is instead retained as part of the modified blank. The second phase is the reason for the improvement of the products of the references and is homogeneously distributed within the blank.

Relative to the Lin reference, Lin uses different infiltration material to build up a second crystalline phase; due to this infiltration, translucency is impossible and it thus not inherently disclosed. Furthermore, Lin does not teach a fracture toughness of more than  $6.5 \text{ MPa m}^{1/2}$ , as in the presently claimed invention, but rather only teaches values up to  $6.5 \text{ MPa m}^{1/2}$ .

In the presently claimed invention the infiltration layer is only a temporary supportive encasing layer-phase that causes the improved properties of the main-phase of the oxide ceramic in the inner core. There is no second phase distributed in the improved main phase.

In view of these considerations it is respectfully submitted that the rejection of claims 1, 4-15, 17 and 40-42 under 35 USC 103 (a) over a combination of the above discussed references is overcome and should be withdrawn.

The patents to Tyszblat, Kondo and Beesabathina have also been considered. Applicant submits that none of these references adds anything to the teachings of the previously discussed references so as to suggest the presently claimed invention. Therefore, it is respectfully submitted that the rejections of claims 16, 18-21, and 43 under 35 USC 103 (a) are overcome and should be withdrawn.

Reconsideration and allowance of the present application are respectfully requested.

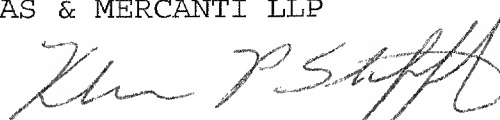
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Any additional fees or charges required at this time in connection with this application may be charged to Patent and Trademark Office Deposit Account No. 02-2275.

Respectfully submitted,

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By



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